

WHAT IS CLAIMED IS:

1. A data processing device comprising:

a memory interface unit for accessing data storage means; and

a control unit for controlling said memory interface unit;

wherein:

an access permission table which is stored in a data storage area in said data storage means is set in said memory interface unit; and

in response to an access command to access said data storage means, which is issued by said control unit, said memory interface unit determines, by referring to the access permission table, whether or not to execute the access command, whereby processing which is set executable by the access permission table is only executed.

2. A data processing device according to Claim 1,

wherein:

the data storage area in said data storage means is a flash memory having a plurality of blocks, each of which consists of a plurality of sectors which each have a predetermined data capacity;

in the access permission table, permission information

on block-unit data processing is set; and

in accordance with the set permission information, said memory interface unit includes means for determines whether or not the block-unit data processing can be executed.

3. A data processing device according to Claim 1, wherein:

only when a type of processing corresponding to the access command from said control unit is within a range of processing types which are set executable by the access permission table does said memory interface unit execute the type of processing, and sets a process-success flag in accordance with a success of the processing in said memory interface unit; and

said control unit executes processing thereof on condition that the setting of the process-success flag in said memory interface unit is verified.

4. A data processing device according to Claim 1, wherein:

when the access command designates a data-file reading process, said control unit executes a process in which the address of a data file to be read is selected from a file allocation table corresponding to the data storage area in said data storage means and is transmitted to said memory

interface unit; and

after receiving the address of the data file, said memory interface unit determines, by using the received address to refer to the access permission table, whether or not an address-assigned area having the address is a data-readable area, and only when the address-assigned area is a data-readable area does said memory interface unit execute the data-file reading process.

5. A data processing device according to Claim 1, wherein:

when the access command designates a data-file writing process, said control unit executes a process in which the address of a data file to be written is selected from the data storage area in said data storage means and is transmitted as a write address to said memory interface unit; and

after receiving the write address, said memory interface unit determines, by using the received write address to refer to the access permission table, whether or not an address-assigned area having the write address is a data-writable area, and only when the address-assigned area is a data-writable area does said memory interface unit execute the data-file writing process.

6. A data processing device according to Claim 1,
wherein:

in the access permission table, in the form of
additional data, an integrity check value which is generated
based on data in the access permission table is included as
a check value for verifying whether or not the data in the
access permission table is interpolated;

said memory interface unit includes a cryptosystem unit
for, based on the integrity check value, executing the
integrity checking of the access permission table; and

when said cryptosystem unit determines that the access
permission table has not been interpolated, the access
permission table is set in said memory interface unit, and
data processing is executed based on the determination of
access permission in accordance with the set access
permission table.

7. A data processing device according to Claim 1,
wherein:

in the access permission table, in the form of
additional data, an integrity check value which is generated
based on data including data in the access permission table
and an identifier unique to said data storage means is
included as a check value for verifying whether or not the
data in the access permission table is interpolated;

the verification based on the integrity check value by said memory interface unit is executed as the verification of whether or not the access permission table is stored in valid media, in addition to the verification of whether or not the data in the access permission table is interpolated; and

when verifying the validity of storage, the access permission table is set in said memory interface unit, and data processing is executed based on the determination of access permission in accordance with the set access permission table.

8. A data processing device according to Claim 1, wherein, when mutual authentication is established as a result of mutual authentication with said data storage means, the access permission table, which is stored in the memory of said data storage means, is set in said memory interface unit.

9. A data processing device according to Claim 1, wherein:

said data storage means is a flash memory having a data storage area which has a plurality of blocks, each of which consists of a plurality of sectors in which each of the sectors has a predetermined data capacity;

in the access permission table, either information on whether or not block-unit data erasure can be performed or information on whether or not block-unit data playback can be performed is set; and

in accordance with either information set in the access permission table, said memory interface unit determines whether or not block-unit data processing can be executed.

10. A data storage device comprising a data storage area consisting of a plurality of blocks, each of which consists of a plurality of sectors which each have a predetermined data capacity,

wherein, in said data storage area, an access permission table in which permission information on block-unit data processing in the data storage area is set is stored.

11. A data storage device according to Claim 10, wherein data-processing-permission information on blocks of the data storage area in which the access permission table is stored is set to indicate that the blocks are treated as an erasure-prevented area.

12. A data storage device according to Claim 10, further comprising a cryptosystem unit for executing mutual

authentication with a data processing device which performs data transfer to said data storage device,

wherein, when the mutual authentication is established, a process which transfers the access permission table to said data processing device is executed.

13. A data processing method for a data processing device comprising a memory interface unit for accessing data storage means and a control unit for controlling said memory interface unit, wherein said memory interface unit performs the steps of:

setting therein an access permission table which is stored in a data storage area in said data storage means;

determining, by referring to the access permission table in response to an access command to access said data storage means, whether or not to execute the access command; and

executing only a process which is set executable by the access permission table.

14. A data processing method according to Claim 13, wherein:

the data storage area in said data storage means is a flash memory having a plurality of blocks, each of which consists of a plurality of sectors which each have a

predetermined data capacity;

in the access permission table, permission information on block-unit data processing is set; and

in accordance with the set permission information, said memory interface unit includes means for determines whether or not the block-unit data processing can be executed.

15. A data processing method according to Claim 13, wherein:

only when a type of processing corresponding to the access command from said control unit is within a range of processing types which are set executable by the access permission table does said memory interface unit execute the type of processing, and sets a process-success flag in accordance with a success of the processing in said memory interface unit; and

said control unit executes processing thereof on condition that the setting of the process-success flag in said memory interface unit is verified.

16. A data processing method according to Claim 13, wherein:

when the access command designates a data-file reading process, said control unit executes a process in which the address of a data file to be read is selected from a file

allocation table corresponding to the data storage area in said data storage means and is transmitted to said memory interface unit; and

after receiving the address of the data file, said memory interface unit determines, by using the received address to refer to the access permission table, whether or not an address-assigned area having the address is a data-readable area, and only when the address-assigned area is a data-readable area does said memory interface unit execute the data-file reading process.

17. A data processing method according to Claim 13, wherein:

when the access command designates a data-file writing process, said control unit executes a process in which the address of a data file to be written is selected from the data storage area in said data storage means and is transmitted as a write address to said memory interface unit; and

after receiving the write address, said memory interface unit determines, by using the received write address to refer to the access permission table, whether or not an address-assigned area having the write address is data-writable area, and only when the address-assigned area is a data-writable area does said memory interface unit

execute the data-file writing process.

18. A data processing method according to Claim 13, wherein:

in the access permission table, in the form of additional data, an integrity check value which is generated based on data in the access permission table is included as a check value for verifying whether or not the data in the access permission table is interpolated; and

said memory interface unit executes the steps of:

executing, based on the integrity check value, the integrity checking of the access permission table;

setting the access permission table in said memory interface unit when it is determined that the access permission table has not been interpolated; and

executing data processing based on the determination of access permission in accordance with the set access permission table.

19. A data processing method according to Claim 13, wherein:

in the access permission table, in the form of additional data, an integrity check value which is generated based on data including data in the access permission table and an identifier unique to said data storage means is

included as a check value for verifying whether or not the data in the access permission table is interpolated; and

said memory interface unit executes the steps of:

executing the verification based on the integrity check value as the verification of whether or not the access permission table is stored in valid media, in addition to the verification of whether or not the data in the access permission table is interpolated;

setting therein the access permission table when the validity of storage is verified; and

executing data processing based on the determination of access permission in accordance with the set access permission table.

20. A data processing method according to Claim 13, wherein, when mutual authentication is established as a result of mutual authentication with said data storage means, the access permission table, which is stored in the memory of said data storage means, is set in said memory interface unit.

21. A data processing method according to Claim 13, wherein:

said data storage means is a flash memory having a data storage area which has a plurality of blocks, each of which

consists of a plurality of sectors in which each of the sectors has a predetermined data capacity;

in the access permission table, either information on whether or not block-unit data erasure can be performed or information on whether or not block-unit data playback can be performed is set; and

in accordance with either information set in the access permission table, said memory interface unit determines whether or not block-unit data processing can be executed.

22. A program providing medium for providing a computer program which controls a computer system to execute data processing by a data processing device comprising a memory interface unit for accessing data storage means and a control unit for controlling said memory interface unit,

wherein the computer program comprises the steps of:

setting an access permission table which is stored in a data storage area in said data storage means;

determining, by referring to the access permission table in response to an access command to access said data storage means, whether or not to execute the access command; and

executing only a process which is set executable by the access permission table.